AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning at page 17, line 23, as follows:

Fig. 7:

It shows a DNA base sequence (SEQ ID NO: 1) (upper line) of a sporulation-associated gene hos, and an amino acid sequence (SEQ ID NO: 2) (lower line) corresponding to it.

Please amend the paragraph beginning at page 18, line 2, as follows:

Fig. 8:

It is a continuation of Fig. 7 (continuation of both SEQ ID NO: 1 and SEQ ID NO: 2).

Please amend the paragraph beginning at page 18, line 4, as follows:

Fig. 9:

It shows an amino acid sequence (SEQ ID NO: 4) (lower line) of an extracellular protease EMP, and a DNA sequence (SEQ ID NO: 3) (upper line) of a gene emp encoding it.

Please amend the paragraph beginning at page 18, line 8, as follows:

Fig. 10:

It is a continuation of Fig. 9 (continuation of both SEQ ID NO: 3 and SEQ ID NO: 4).

Please amend the paragraph beginning at page 18, line 10, as follows:

Fig. 11:

It is a continuation of Fig. 10 (continuation of both SEQ ID NO: 3 and SEQ ID NO: 4).

Please amend the paragraph beginning at page 18, line 12, as follows:

Fig. 12:

It shows an amino acid sequence (SEQ ID NO: 6) (lower line) of an intracellular protease IMP, and a DNA sequence (SEQ ID NO: 5) (upper line) of a gene imp encoding it.

Please amend the paragraph beginning at page 18, line 16, as follows:

Fig. 13:

It is a continuation of Fig. 12 (continuation of both SEQ ID NO: 5 and SEQ ID NO: 6).

Please amend the paragraph beginning at page 18, line 18, as follows:

Fig. 14:

It shows primers Hos P1 (SEQ ID NO: 7), Hos P2 (SEQ ID NO: 8), Hos P3 (SEQ ID NO: 9), and Hos P4 (SEQ ID NO: 10).

Please amend the paragraph beginning at page 18, line 20, as follows:

Fig. 15:

It shows primers imp P1 (SEQ ID NO: 11) and imp P2 (SEQ ID NO: 12).

Please amend the paragraph beginning at page 18, line 22, as follows:

Fig. 16:

It shows a primer flp P1 (SEQ ID NO: 13).

Please amend the paragraph beginning at page 18, line 24, as follows:

Fig. 17:

It shows a primer flp P2 (SEQ ID NO: 14).

Please amend the paragraph beginning at page 19, line 1, as follows:

Fig. 18:

It shows a primer flp P3 (SEQ ID NO: 15).

Please amend the paragraph beginning at page 19, line 3, as follows:

Fig. 19:

It shows a primer flp P4 (SEQ ID NO: 16).

Please amend the paragraph beginning at page 19, line 5, as follows:

Fig. 20:

It shows a primer flp P5 (SEQ ID NO: 17).

Please amend the paragraph beginning at page 19, line 7, as follows:

Fig. 21:

It shows a primer flp P6 (SEQ ID NO: 18).

Please amend the paragraph beginning at page 19, line 9, as follows:

Fig. 22:

It shows a primer flp P7 (SEQ ID NO: 19).

Please amend the paragraph beginning at page 19, line 11, as follows:

Fig. 23:

It shows a primer flp P8 (SEQ ID NO: 20).

Please amend the paragraph beginning at page 19, line 13, as follows:

Fig. 24:

It shows an oligonucleotide base sequence (SEQ ID NO: 21) and an amino acid sequence (SEQ ID NO: 38) ~~data of primers~~ of an emp P1 ~~and~~ primer, as well as an oligonucleotide base sequence (SEQ ID NO: 22) and an amino acid sequence (SEQ ID NO: 39) of an emp P2 primer.

Please amend the paragraph beginning at page 19, line 16, as follows:

Fig. 25:

It shows primers emp P3 (SEQ ID NO: 23) and emp P4 (SEQ ID NO: 24), and an adaptor primer (SEQ ID NO: 25).

Please amend the paragraph beginning at page 19, line 18, as follows:

Fig. 26:

It shows a sense primer in Example 19 (SEQ ID NO: 26).

Please amend the paragraph beginning at page 19, line 20, as follows:

Fig. 27:

It shows an antisense primer in Example 19 (SEQ ID NO: 27).

Please amend the paragraph beginning at page 19, line 22, as follows:

Fig. 28:

It shows a sense primer in Example 20 (SEQ ID NO: 28).

Please amend the paragraph beginning at page 19, line 24, as follows:

Fig. 29:

It shows an antisense primer in Example 20 (SEQ ID NO: 29).

Please amend the paragraph beginning at page 20, line 1, as follows:

Fig. 30:

It shows a sense primer in Example 21 (SEQ ID NO: 30).

Please amend the paragraph beginning at page 20, line 3, as follows:

Fig. 31:

It shows an antisense primer in Example 21 (SEQ ID NO: 31).

Please amend the paragraph beginning at page 20, line 5, as follows:

Fig. 32:

It shows a sense primer in Example 23 (SEQ ID NO: 32).

Please amend the paragraph beginning at page 20, line 7, as follows:

Fig. 33:

It shows an antisense primer in Example 23 (SEQ ID NO: 33).

Please amend the paragraph beginning at page 20, line 9, as follows:

Fig. 34:

It shows a sense primer in Example 24 (SEQ ID NO: 34).

Please amend the paragraph beginning at page 20, line 11, as follows:

Fig. 35:

It shows an antisense primer in Example 24 (SEQ ID NO: 35).

Please amend the paragraph beginning at page 20, line 13, as follows:

Fig. 36:

It shows a sense primer in Example 25 (SEQ ID NO: 36).

Please amend the paragraph beginning at page 20, line 15, as follows:

Fig. 37:

It shows an antisense primer in Example 25 (SEQ ID NO: 37).

Please amend the paragraph beginning at page 65, line 21, as follows:

10 μg of the pure EMP preparation was subjected to SDS-PAGE using an acrylamide concentration of 10 %, and the separated protein was transferred onto a PVDF film in a semi-dry protein transfer device, in which the EMP protein band was detected with a staining solution comprising 0.01 % CBB and 40 % methanol. Next, the PVDF film was discolored with a CBB-free 40 % methanol solution, and then the film was dried. Next, the protein band-containing part was cut out of the film, and analyzed for the N-terminal amino acid sequence thereof by the use of an ABI protein sequencer Model 492. This amino acid sequence analysis confirmed the N-terminal amino acid sequence of the protein, comprising 24 amino acid residues of AlaSerLysArgValHisThrAspAsnLeuValIleAlaLeuValGluPheAsnAspLeuGluGlyAsn Gln (SEQ ID NO: 40).

Please amend the paragraph beginning at page 66, line 11, as follows:

50 μg of the pure EMP preparation was subjected to SDS-PAGE using an acrylamide concentration of 10 %, and an EMP protein band-containing gel fraction was cut out. Next, according to the method in Current Protocols in Protein Science, 11.3 Digestion of Proteins in Gel for Sequence Analysis, John Wiley & Sons, 1995, the EMP was subjected to in-gel enzyme treatment with 1 μg of trypsin for limited digestion thereof in gel. Next, the peptide fragment of the trypsin-processed EMP was recovered in an acetonitrile solution, and then subjected to reversed-phase column chromatography with Mightysil Aqua PR18 (Kanto Kagaku Co.), in which the peptide fragment of EMP was eluted and separated with a linear concentration gradient of 0 to 60 % acetonitrile containing 0.05 % TFA. Then, the thus eluted and

separated EMP peptide fragment was dried to solidness, and one peptide fragment was subjected to amino acid sequence analysis with an ABI protein sequencer Model 492. The amino acid sequence analysis confirmed the internal partial amino acid sequence comprising 10 amino acid residues of IlePheGlnThrGlnProThrGlyPheAsp (SEQ ID NO: 41).

Please delete the originally filed Sequence Listing.

Page 105 (Abstract), after the last line, beginning on a new page, please insert the attached Substitute Sequence Listing.